



Safety & Mission Assurance

Presenter **M. D. Erminger**

Date **February 27, 2001**

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STS-102/5A.1 Flight Readiness Review



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Approach and General Description

S&MA held reviews in preparation for the STS-102/5A.1 Flight Readiness Review on 6 February and 23 February 2001 and is ready to proceed toward launch countdown.

FRR Briefing Overview

- **Significant assessments - *discuss***
- **Special topics**
 - **NASA Safety Reporting System (NSRS) - *discuss***
 - **Space Shuttle Hazard Analysis - *discuss***
 - **Space Shuttle FMEA/CIL – *discuss***
- **Space Shuttle and Space Station Independent Assessments - *discuss***
- Significant Open Work - *none*
- CoFR Exceptions - *none*
- Open Action Items - *none*



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Significant Assessments

Space Station

- Floating Potential Probe
- Acoustics NCR - Approved
- Ground Fault Circuit Interrupt (GFCI) Nuisance Trips
- STS-98 Launch to Activation Heater Problem

EVA

- Plasma Contactor Unit NCR - Approved
- Phase VI Glove Heater Problem



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Significant Assessments

SRB

- STS-100 Loose Connector on Upper Strut Ordnance Cable

Launch & Landing

- STS-98 Databus Connector Jarred Loose

Station GFE

- Treadmill Vibration Isolation System

Additional Assessed Items Are In The Backup Charts



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NSRS Summary

There are no NASA Safety Reporting System reports open that are applicable to STS-102/5A.1.



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Space Shuttle Hazard Analysis Summary

There are no new Accepted Risk hazards identified for STS-102.



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Space Shuttle FMEA/CIL Summary

There are no new Criticality 1 CILs identified for STS-102.



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Space Shuttle and Space Station Independent Assessments

Assessment Number	Title	Completed Date
<u>JS-9052</u>	Readiness Review of ISS Berthing Operations for Flights 3A to 9A	11/05/99
<u>JS-9064</u>	Flight 5A.1 Stage Assessment Review	06/10/99
<u>JSC-98-101</u>	An Evaluation of Space Vision System (SVS Testing)	11/18/98
<u>JS-SH-9001</u>	Identification of Shuttle Program Issues which Affect Station/Shuttle Readiness for Flights 2A through 7A	10/19/98
MH-9022	MPLM Flight Module 2 Flight Acceptance Review	08/04/99
<u>JSC-98-089</u>	ISS IA Certification of Flight Readiness Process for Logistics and Utilization Flights	03/30/98
<u>JSC-98-012</u>	Identification of Thermal Model Validation Testing Needed for ORUs Flown from Flight 2A through 8A	01/16/98

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STS-102/5A.1 Readiness Statement

With the satisfactory completion of identified open work, Safety and Mission Assurance has no constraints to STS-102/5A.1. S&MA has no issues that constrain any of the mission success criteria.

/s/ John Casper

SR&QA Director, JSC

/s/ Shannon Bartell

**Director, KSC Safety, Health
and Independent Assessment**

/s/ Amanda Goodson

S&MA Director, MSFC

/s/ Bill Higgins

Chief, Shuttle S&MA, KSC

/s/ Jerry Holsomback

ISS S&MA Manager

/s/ Hank Davis

HEDS IA Director

/s/ Mark Erminger

SS SR&QA Manager



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STS-102/5A.1

Flight Readiness Review

Backup Package



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Additional Assessments

Orbiter/GFE

- ODS Centerline Camera Misalignment on STS-106 and STS-92
- New CIL Waiver For The Standard Weight PRLA EVA Modification

ET

- LH2 Feedline Contamination

SRB

- Critical Process Change
 - Installation of Electronic Data Acquisition System (EDAS) Cable and Sensors
- Cable Assembly Evaluation
- Booster Separation Motor Graphite Throat Cracks
- STS-98 Right Forward Field Joint Insulation Discoloration



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Assessment Number	Title	Completed Date
<u>JS-0056</u>	International Space Station Increment Pre-Mission and Mission Timeline Development Process	12/12/00
<u>JS-0046</u>	International Space Station Program (ISSP) Non-Conformance Report (NCR) Process	10/27/00
<u>GS-0006</u>	Boeing-Canoga Park (CP) Non-Standard Part Approval Request (NSPAR) Process Assessment	09/22/00
<u>JA-9111</u>	Review of ISS Digital Pre-assembly (DPA)	07/31/00
<u>JA-9102</u>	Survey of Space Qualified Cameras for Direct View Berthing Applications	07/31/00
<u>JS-0018</u>	Adequacy of Thermal Math Model (TMM) for ISS Active Thermal Control System (ATCS)	05/23/00
<u>JS-0024</u>	Adequacy of Intravehicular Detection of Hypergolic Propellant Contamination Following Extravehicular Activity	04/07/00
<u>JS-0026</u>	Evaluation of the Robotic Workstation (RWS) On-Board Trainer and Training Plan Development Approach	03/24/00
<u>JS-9086</u>	Evaluation of the Limited Life Item (LLI) Operational Usage Tracking Processes following Launch-to-Activation (LTA)	02/01/00
<u>JS-0016</u>	Adequacy of International Space Station (ISS) Contingency Planning for Leonid Meteor Events	01/28/00
<u>JS-0019</u>	Preliminary Design Review (PDR) for the Life Science Glovebox (LSG)	01/14/00
<u>JS-0013</u>	Evaluation of ISS Crew Health and Performance Impacts Resulting from Long Term Exposure to the ISS Acoustic Environment	01/10/00
<u>MH-9010</u>	Radiation Hardening Verification for Critical ISS GFE EEE Components	12/13/99
<u>KS-9005</u>	Limited Life Item (LLI) Identification, Tracking, and Control	11/09/99
<u>JS-9069</u>	Completeness of Operational Procedures for Incorporation into the Multi Element Integrated Testing (MEIT)	08/31/99
<u>JS-9038</u>	Adequacy of the End-to-End Verification Test of the Inventory Management System (IMS)	08/19/99
<u>JS-9055</u>	Adequacy of the Manifesting & Cargo Integration Processes to support the ISSP	07/28/99
<u>JS-9044</u>	Evaluation of the Fit Check Process for the Human Research Facility (HRF) Class Payload	05/06/99
<u>JS-9043</u>	ISS Teletraining Effectivity	04/14/99
<u>JS-9030</u>	Applicability of Spacelab Flight Rules to the ISS	03/19/99
<u>JS-9032</u>	Phase 1 Program (Shuttle/Mir) to Phase 2 Program (Shuttle/ISS) Hazard Assessment Traceability	02/19/99
<u>JS-9007</u>	Review of Generic Flight Rules Volume B	02/12/99
<u>JS-9008</u>	Review of Generic Flight Rules Volume C	02/12/99
<u>JSC-98-100</u>	Implementation of the Problem Reporting and Corrective Action (PRACA) System for the ISS Program	01/21/99



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Assessment Number	Title	Completed Date
JS-9006	Evaluation of Flight Rule CRs for Volumes B&C Except for C&T and EVA	11/18/98
HS-9010	Incremental Functional Configuration Audit (IFCA) Number One (#1) Assessment for the Capture Latch Assembly (CLA)	06/11/99
<u>HS-9011</u>	Functional Configuration Audit/Physical Configuration Audit (FCA/PCA) Assessment for the Capture Latch Assembly (CLA)	09/01/99
MSFC-IA-0058	Lab Racks Hardware/Software Integration Testing Assessment	05/29/98
MSFC-IA-0059	Common Berthing Mechanism (CBM) Assembly Level Qualification Test (ALQT) Update Assessment	04/08/98
MSFC-IA-0041	Common Berthing Mechanism (CBM) Assembly Level Qualification Test and Integrated Berthing Test	09/30/97
JSC-LM97-151	Special Assessment: Assessment of the HARP Team;s Evaluation of the Program Acceptance Process	08/29/97
JSC-LM97-052	Adequacy of Space Vision System Testing and Verification with Respect to Station Operations	03/19/97
JSC-LSIS-106	Risk Assessment of Ku-Band Antenna Survival and Operations Through Flight 8A	12/20/96
LSIS-167	Assess the Adequacy of External Viewing Resources to Support Station Activities for Stages 1 Through 16 (Flights 1A/R Through 11A)	9/19/96
LSIS-104	Design Analysis Cycle (DAC) #4 Special Assessment Review Item Discrepancies	9/17/96
LSIS-173	Maintenance for Stages 1 Through 16 (Flights 1A/R Through 11A)	9/10/96
LSIS-172	Assess the Adequacy of External Viewing Resources to Support Station Assembly Stages 1 Through 16 (Flights 1 A/R Through 11A)	8/27/96
LSIS-124	The Relative Benefit of Individual Spare Part Availability to ISS Functional Availability	6/13/96
LSIS-047	Assessment of the Failure Rates of Items Requiring Scheduled Remove and Replace (Preventive Maintenance)	12/5/95
MSFC-IA-015	Independent Assessment Report On The International Space Station's Ability To Provide Adequate Caution & Warning Annunciation	11/6/95



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